APPLICABLE CODES AND STANDARDS: 2012 INTERNATIONAL BUILDING CODE A.I.S.C. LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (LRFD) MARCH 9, 2005 A.W.S. D1.1 **EXIT FACILITIES** PUBLIC ROOMS PARTITIONS - (LATERAL LOAD) LATERAL IMPACT LOAD - 4000 LB VEHICLE TRAVELING @ 30 MPH ROOF LIVE LOAD 20 PSF ROOF SNOW LOAD (GROUND SNOW Pg=25 PSF) - 20 PSF + DRIFT WIND LOADS BASIC WIND SPEED EXPOSURE CLASSIFICATION B IMPORTANCE FACTOR 1.15 SEISMIC LOADS SEISMIC DESIGN CATEGORY - A IMPORTANCE FACTOR 1.25 SPECTRAL RESPONSE COEFFICIENT SDS = 0.132 SPECTRAL RESPONSE COEFFICIENT SD1 = 0.042 SITE CLASSIFICATION - D MAXIMUM ALLOWABLE SOIL BEARING CAPACITY 1500 PSF MATERIAL DATA: **CONCRETE & REINFORCING** CONCRETE STRENGTH (fc @ 28 DAYS) FOOTINGS, GRADEBEAMS CONCRETE NOT OTHERWISE SPECIFIED 3000 PSI BOLLARD FOOTING 3000 PSI GRADE SUPPORTED SLABS 4000 PSI CEMENT TYPE PORTLAND TYPE I AGGREGATES REGULAR WT. HARDROCK TYPE - ASTM C33 REINFORCING STEEL ASTM A615, GRADE 60 WELDED WIRE FABRIC ASTM A185 PREFORMED EXPN. JT. (1/2 IN) ASTM D1751 STRUCTURAL STEEL (ALL OTHER SHAPES) ASTM A36 STRUCTURAL SQUARE TUBING ASTM A500, GRADE B (Fy = 46 KSI) ANCHOR RODS ASTM F1554, GRADE 36, **BOLTED CONNECTIONS** ASTM A325N WELDED CONNECTIONS E70XX ELECTRODES METAL ROOF DECK ASTM A611 LIGHT GAGE STEEL STUDS/JOISTS ASTM A570 12 TO 16 GAGE (PAINTED) ASTM A570 GRADE D (Fy=50 KSI) 18+ GAGE (PAINTED) ASTM A611 GRADE C (Fy=33 KSI) STRUCTURAL NOTES: ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE BUILDING CODE. THE STRUCTURE ADDITION HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATION OF ANY LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. WHERE CONSTRUCTION MATERIALS OR EQUIPMENT ARE TEMPORARILY STORED ON ROOF, THEY SHALL BE DISTRIBUTED SO THAT THE DESIGN LIVE LOAD IS NOT EXCEEDED. STEEL LATERAL LOAD RESISTING SYSTEM: ALL LATERAL LOAD RESISTANCE AND STABILITY IN THE COMPLETED STRUCTURE IS PROVIDED BY: CONNECTION TO EXISTING STRUCTURE N-S DIRECTION: E-W DIRECTION: CONNECTION TO EXISTING STRUCTURE ROOF DIAPHRAGM: METAL ROOF DECK STEEL STABILITY: STRUCTURAL STEEL FRAMING INDICATED IN THESE PLANS REQUIRES INTERACTION WITH NON-STRUCTURAL STEEL ELEMENTS FOR STRENGTH AND/OR STABILITY. SEE PLANS FOR SPECIFIC LOCATIONS OF THESE NON-STRUCTURAL STEEL ELEMENTS WHICH ARE LISTED BELOW: DETAILS ON THE DRAWINGS INDICATED AS "TYPICAL" APPLY IN ALL AREAS WHERE CONDITIONS SIMILAR TO THE DETAIL OCCUR. THE STRUCTURAL DRAWINGS ARE NOT INTENDED FOR USE AS SHOP ERECTION DRAWINGS. REPRODUCTION OF THESE DRAWINGS IN LIEU OF PREPARATION OF SHOP ERECTION DRAWINGS SIGNIFIES THE USERS' ACCEPTANCE THAT ALL INFORMATION SHOWN IS CORRECT AND APPROPRIATE FOR SHOP DRAWINGS AND THAT THE USER WILL BE FULLY RESPONSIBLE FOR EXPENSES THAT MAY OCCUR FROM SAID ACCEPTANCE. UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER **COORDINATION / VERIFICATION:** CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY PHASE OF THE WORK. CROSS REFERENCE STRUCTURAL DRAWINGS WITH MECHANICAL AND ELECTRICAL DRAWINGS, AND WITH ACTUAL EQUIPMENT SUPPLIED TO THE PROJECT, FOR THE LOCATION AND SIZE OF ALL SLAB OPENINGS, SLEEVES, INSERTS, FLOOR DEPRESSIONS, BLOCK-OUTS, CURBS, ANCHORS, BOLTS, ETC. REQUIRED FOR INSTALLATION. PROVIDE ADEQUATE STRUCTURAL FRAMING AS APPROVED BY THE ENGINEER FOR ALL REQUIRED MECHANICAL OPENINGS THROUGH SLABS, WALLS, FLOOR DECK, ETC., AND SUPPORT OF ALL MECHANICAL EQUIPMENT. OPENINGS SHALL NOT BE PERMITTED THROUGH BEAMS UNLESS SPECIFICALLY DETAILED BY THE ENGINEER. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SURFACE FINISHES AND DIMENSIONS. CONCRETE / REINFORCING: CONCRETE BATCH DESIGN(S) SHALL BE PROPORTIONED AND PRODUCED IN ACCORDANCE WITH A.C.I. 318, IN PARTICULAR CHAPTER 5, AND A.C.I. 301. MIX AND DELIVER IN ACCORDANCE WITH ASTM C94. SLUMP REQUIREMENTS: MIN. 1 IN. / MAX. 3 IN. FOUNDATIONS OTHER CONCRETE MIN. 1 IN. / MAX. 4 IN. AIR ENTRAINMENT CONCRETE EXPOSED TO WEATHER 5% MIN. ADMIXTURES SUBMIT AS REQUIRED FOR APPROVAL MAX. 20% OF CEMENT CONTENT FLY ASH CONSTRUCTION JOINTS MUST HAVE PRIOR REVIEW BY THE ENGINEER. ALL CONTINUOUS REINFORCING SHALL BE CARRIED THROUGH THE JOINT. LOCATIONS: FND FOOTINGS MIDWAY BETWEEN COLUMNS CONCRETE TO CONCRETE COLD JOINTS - PROVIDE 1/4" INTENTIONALLY ROUGHENED SURFACE AT ALL HORIZONTAL JOINTS.

CURING: CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF SEVEN DAYS AFTER ITS PLACEMENT. IF FORMWORK IS REMOVED PRIOR TO SEVEN DAYS, APPLY MOIST CURING TO NEWLY EXPOSED SURFACES. APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING.

REINFORCING BAR WELDING: ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

MINIMUM CONCRETE CLEAR COVER:

PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER OVER REINFORCING (FACE OF CONCRETE TO EDGE OF BAR) UNLESS DETAILED OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH

CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, JOISTS #11 BAR AND SMALLER 3/4"

BAR SUPPORT ACCESSORIES SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES SLAB REINFORCING ON BAR BOLSTERS @ 4 FT. O.C. MAX. WITH SAND PLATES AS REQUIRED

Date

NO ROCKS, CLAY TILE, OR CLAY BRICK SHALL BE USED TO SUPPORT REINFORCING.

MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS 7000 PSI

NON-METALLIC, SHRINKAGE-RESISTANT GROUT PRE-MIXED, NON-METALLIC, NON-CORROSIVE, NON-STAINING PRODUCT CONTAINING SILICA SANDS, PORTLAND CEMENT, SHRINKAGE-COMPENSATING AGENTS, PLASTICIZING AND WATER-REDUCING AGENTS (ASTM C-1107). MINIMUM COMPRESSIVE STRENGTH @ 48 HOURS 2400 PSI

REINFORCING SHOP DRAWINGS: REINFORCING SUPPLIER SHALL PROVIDE COMPLETE PLACEMENT AND FABRICATION DRAWINGS FOR ALL REINFORCING INCLUDING THE LOCATION AND SIZE OF ALL ACCESSORIES AND

FOUNDATIONS:

FOOTINGS SHALL BE PLACED ON NEAT, CLEAN AND DRY EXCAVATIONS. EXTREME CARE SHALL BE TAKEN WHEN EXCAVATING NEAR THE BEARING SURFACE. FOOT TRAFFIC SHALL BE KEPT TO A MINIMUM NECESSARY TO PLACE THE FOOTING REINFORCEMENT AND CONCRETE.

THE CONTRACTOR SHALL PROVIDE FOR ADEQUATE DRAINAGE OF SURFACE WATER AWAY FROM THE STRUCTURE AND EXCAVATED AREAS DURING CONSTRUCTION. THIS INCLUDES NECESSARY PUMPING, TRENCHING, BACKFILL AND/OR DIKE CONSTRUCTION.

GRADE SUPPORTED SLABS:

REINFORCED CONCRETE SLAB ON GRADE: **SLAB THICKNESS:** 5 IN.

#4 @ 18" O.C. EACH WAY PLACED THE REQ'D CLEAR DISTANCE FROM TOP OF SLAB OR 6x6-W2.9xW2.9 W.W.F. PLACED THE REQ'D CLEAR DISTANCE FROM TOP OF SLAB

TEN (10) MIL POLYETHYLENE. LAP AND TAPE ALL JOINTS AND HOLES.

GRANULAR SUBBASE UNDER SLAB-ON-GRADE: MINIMUM THICKNESS: 6 IN. COMPACTION 95% (± 2%) GRADATION REQUIREMENTS: 100% PASSING THE 3/4" SIEVE LESS THAN 15% PASSING THE 100 SIEVE LESS THAN 2% PASSING THE 200 SIEVE

SELECT FILL, WHERE REQUIRED TO ACHIEVE FINAL GRADE; CLEAN, INORGANIC, LOW-PLASTICITY SILT OR LEAN CLAY WITH THE FOLLOWING PROPERTIES: MAXIMUM LIQUID LIMIT (LL) 5 TO 18 PLASTICITY INDEX (PI) RANGE MOISTURE CONTENT (% OF OPTIMUM) +3%, -2%

COMPACTION

MAXIMUM LOOSE LIFT

HEAVILY ROOT INFESTED TOPSOIL, PAVING, AND DEBRIS SHOULD BE STRIPPED AND DISCARDED. REMAINING EARTH SHALL BE SCARIFIED TO A DEPTH OF 12" AND RECOMPACTED TO AT LEAST 95% STANDARD PROCTOR

95% (± 2%)

CRACK CONTROL JOINTS (WHETHER CONSTRUCTION JOINTS OR SAWED JOINTS) IN SLABS ON GRADE SHALL OCCUR AS SHOWN AND ACROSS ALL DOOR OPENINGS. LOCATE JOINTS AT RE-ENTRANT CORNERS OF SLABS. MAXIMUM SPACING OF CONTROL JOINTS:10 FEET

CURING: CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF SEVEN DAYS AFTER ITS PLACEMENT. APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING. CURING COMPOUNDS SHALL BE NON-RESIDUAL TYPE AND COMPATIBLE WITH SPECIFIED SEALER

SEAL ALL EXPOSED CONSTRUCTION/CRACK CONTROL JOINTS AND EXPANSION JOINTS WITH POLYURETHANE TYPE SEALANT

STRUCTURAL STEEL:

BEARING CONNECTIONS: UNLESS OTHERWISE NOTED, ALL BEAM CONNECTIONS SHALL BE SIMPLE FRAMED SHEAR BEARING CONNECTIONS IN ACCORDANCE WITH THE AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING A.S.T.M. A325 OR A490 BOLTS."

DESIGN OF CONNECTIONS: BEAM CONNECTIONS SHALL BE AS DETAILED ON THE PLANS. ALTERNATIVE CONNECTIONS, DESIGNED BY A LICENSED ENGINEER FOR THE FABRICATOR, MAY BE UTILIZED PROVIDED THE ALTERNATIVE CONNECTION PROVIDES THE SAME LOAD CARRYING CAPACITY OF THE ORIGINAL DESIGN.

SPLICES: STEEL FABRICATOR SHALL VERIFY WITH ENGINEER ALL BEAM SPLICES OTHER THAN THOSE SHOWN ON THE PLANS. ANY FULL PENETRATION SHOP SPLICES APPROVED BY ENGINEER SHALL BE INSPECTED BY RADIOGRAPHIC METHODS BY A TESTING LABORATORY APPROVED BY THE ENGINEER AND PAID FOR BY THE

STEEL PROTECTION: ALL STRUCTURAL STEEL SHALL BE CLEANED PER SSPC SP-2 HAND TOOL CLEANING OR SP-3 POWER TOOL CLEANING AND SHOP PAINTED WITH ONE COAT OF THE FABRICATOR'S STANDARD PRIMER (PAINT TYPE SSPC-PAINT 13 OR 25). TOUCH UP SCARRED AREAS WITH THE SAME PAINT AFTER ERECTION.

STEEL PROTECTION: WHERE STEEL IS INDICATED AS GALVANIZED, PROVIDE HOT-DIPPED GALVANIZED SURFACE PER ASTM A525, CLASS G60. WHERE WELDING OR OTHER CONSTRUCTION OPERATIONS DAMAGE GALVANIZING, PROVIDE ZINC CHROMATE-TYPE TOUCH UP PAINT TO DAMAGED AREA.

WELDING: ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS PER AWS STANDARD QUALIFICATION PROCEDURES.

METAL DECKING

ROOF DECKING TYPE & SIZE: 1-1/2" - 20 GAGE TYPE B (WIDE RIB) ROOF DECK

DECK GOVERNING CRITERIA: THE DESIGN, FABRICATION, AND ERECTION OF METAL DECKING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDI SPECIFICATIONS AND THE SDI DIAPHRAGM DESIGN

DECK ENDS: MAY BE BUTTED OR LAPPED OVER SUPPORTS. LAPS SHALL BE A MINIMUM OF 3".

DECK SPAN: DECKING SHALL BE PLACED TO PROVIDE A MINIMUM TWO-SPAN CONDITION. ROOF DECK CONNECTIONS: ROOF DECKING SHALL BE CONNECTED TO THE SUPPORTING STRUCTURAL ELEMENTS WITH #12 SELF-TAPPING SCREWS SPACED AT 12" O.C. (36/4 PATTERN). SIDELAPS CONNECTIONS SHALL BE MADE WITH #10 SELF-TAPPING SCREWS AND BE SPACED SUCH THAT 2 FASTENERS ARE PROVIDED

DECK PROTECTION: PAINTED DECKING SHALL BE COVERED WITH A WATERPROOF COVERING DURING SHIPPING AND SHALL BE STORED OFF OF THE GROUND AND COVERED WITH A WATERPROOF COVERING WHILE ON SITE.

WITHIN EVERY DECK SPAN.

POST-INSTALLED ADHESIVE ANCHORS: SEE DETAILS

INSTALLATION TO MEET MANUFACTURER'S RECOMMENDATIONS (UNLESS NOTED OTHERWISE) MIN. EMBEDMENTS, EDGE DISTANCES, SPACING, PROCEDURES, AND CURING TIME PRIOR TO LOADING. POST-INSTALLED ANCHORS SHALL BE LOCATED PER THE DETAILS.

SPECIAL INSPECTIONS (IBC 2006)

SPECIAL INSPECTIONS SHALL BE PROVIDED FOR THE WORK IN ACCORDANCE WITH IBC CHAPTER 17. CONTRACTOR SHALL NOTIFY AND ACCOMMODATE THE APPLICABLE INSPECTOR DURING APPROPRIATE PHASES OF THE WORK AS REQUIRED FOR EACH TYPE OF INSPECTION.

STEEL CONSTRUCTION

MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS: A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. - PERIODIC

2. INSPECTION OF HIGH-STRENGTH BOLTING:

B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. - PERIODIC A. BEARING-TYPE CONNECTIONS. - PERIODIC

3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:

A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. B. MANUFACTURERS' CERTIFIED MILL REPORTS.

4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:

A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION

B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.

A. STRUCTURAL STEEL A.A. SINGLE-PASS FILLET WELDS < 5/16" - PERIODIC

INSPECTION OF WELDING:

CONCRETE CONSTRUCTION 6. INSPECTION OF REINFORCING STEEL, AND PLACEMENT. - PERIODIC

7. VERIFYING USE OF REQUIRED DESIGN MIX. - PERIODIC

8. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. - CONTINUOUS

9. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. - CONTINUOUS

10. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. - PERIODIC

INSPECTION OF SOILS

1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY. -

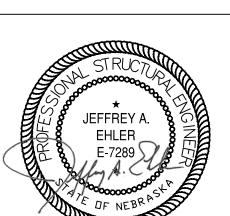
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.

3. PERFORM CLASSIFICIATION AND TESTING OF CONTROLLED FILL MATERIALS. - PERIODIC

4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL. - CONTINUOUS

PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY. - PERIODIC

STRUCTURAL GENERAL NOTES



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ARCHITECT/ENGINEERS:



Drawing Title

GENERA

awing Title SENERAL NOTES	CORRECT MAIN ENTRANCE HVAC			Project Number 636-12-823	Office of	
				Building Number ONE	Construction and Facilities	
	Location VAMC Omaha Nebraska			Drawing Number Management		
CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)	Date MAY 10, 2013	Checked CLH	Drawn	S1.0 Dwg. 19 of 36	Department of Veterans Affair	

